

## **REMARKS**

Entry of the present amendment is respectfully requested. The present amendment does not raise any new issues and is therefore, appropriate under Rule 116. The amendment was not earlier presented because the inconsistencies in the specification were not appreciated until pointed out by the Examiner in the Final Action, and Applicant became familiar with new grounds of rejection after they were first set in the Final Official Action.

By the present amendment, a substitute specification has been submitted.

Based on the foregoing amendments and the following remarks, the application is deemed to be in condition for allowance, and action to that end is respectfully requested.

### **I. Objection to the Specification**

The Examiner objected to the specification because of a number of formal errors therein. As noted above, a substitute specification has been submitted in which the formal errors, which were pointed out by the Examiner and found upon reviewing the specification, have been corrected. The Examiner's careful review

of the specification and indication of specific inconsistencies therein, as well as suggestions for amending the errors were very helpful in revising of the specification and are gratefully appreciated.

The substitute specification is being submitted because of difficulty to make the numerous required amendments a mark-up copy in accordance with M.P.E.P. §608.01 (q) is also being submitted.

## **II. Objection to the Drawings**

The Examiner objected to the drawings under 37 C.F.R. §1.84(p) (5) for not including reference characters mentioned in the specification. Specifically, the Examiner pointed out that Fig. 4 does not show “gasification section 1” and a “discharge orifice 5” described, respectively on P40/L16-17 and P42/L3. It is noted that Fig. 4 shows a “gasification section 21” and a “discharge orifice 25.” The specification has been amended to make it consistent with Fig. 4.

It is respectfully submitted that Figs. 1-4 comply with all of the requirements of 37 C.F.R. §1.84(p)(5).

### **III. Rejection of Claims**

The Examiner rejected Claims 1 and 3 under 35 U.S.C. §103(a) as being unpatentable over Gravel, U.S. Patent No. 3,847,664 (Gravel) in view of Greve, U.S. Patent No. 4,983,549 (Greve), and further, respectively, in view of Babu et al., U.S. Patent No. 4,592,762 (Babu) and Hanson, U.S. Patent No. 5,019,171 (Hanson). It is respectfully submitted that Claims 1 and 3, as amended, are patentable over the applied references.

Specifically, Claim 1 recites a process of the gasification of glass fiber reinforced which includes plastics feeding a glass fiber reinforced plastic material to a rotatable gasification furnace, heating the material to a temperature of 650 to 750°C in the presence of oxygen and steam to gasify the plastic component of the material, recovering the remaining glass fibers, introducing the resulting plastic gas into a plastic gas decomposition section, partially oxidizing the plastic gas at a temperature of 700 to 1000°C in the presence of additional oxygen or an additional mixture of oxygen and steam, and recovering the CO and H<sub>2</sub> so produced.

As explained in the specification, the gasification in the presence of steam prevents generation of undersized higher hydrocarbon by products such as

dioxides. The use of oxygen provides for generation of an increased amount of heat.

The use of a rotatable furnace permits to retain the plastic materials longer than twenty minutes. Further the retention time can easily be adjusted by adjusting the speed of rotation or the angel of the gradient of the furnace. Since the range of the particle size of the FRPs can vary at wide range, no treatment for the adjustment of the particle size would be necessary, by contrast to fluidized bed furnaces. All these advantages enable a complete gasification of raw materials with different particle sizes. This leads to a good performance against the fluctuation of the quality of raw FRPs. The rotatable furnace also permits to avoid the use of large amounts of gases, in contrast to fluidized bed furnaces which require large amount of gases to fluidize raw materials.

It is respectfully submitted that the process of Claim 1 is not disclosed or suggested in the prior art. Considering the prior art, Gravel does not disclosed gasification in a rotary furnace.

Greve, while disclosing a rotary kiln, does not make obvious the use of the rotary kiln in Gravel obvious.

Greve recites that any furnace, without limitation, such as a fluidized bed or rotary kiln can be used for pyrolysis (column 5, lines 13-16). From the description, it can be understood that Greve lacks an intention to effectively recover glass fiber as a valuable resource since Greve does not limit the furnaces, because the quality of the glass fiber removed greatly depends on the furnace use. Therefore, Greve, in which type of the furnace is not limited, teaches away from the glass fiber can be recovered as a valuable resource by using a rotary kiln.

Further, Greve also discloses that glass can be recovered as molten glass as is described in Claim 34. In contrast, the present invention intends to recover glass fiber as a valuable resource without melting the glass fiber. Therefore, in the present invention, the gasification is performed at a temperature of 650-750°C, which temperature does not exceed the melting point of glass fiber, *i.e.*, about 830°C.

The present invention discloses for the first time that glass fiber can be effectively recovered as a valuable resource by the use of a rotary kiln. In addition, oxygen and steam are added as a gasification agent in the process of gasification, which is completely different from Greve. The aim of adding such agents includes heat or CO and H<sub>2</sub> in addition to glass fibers.

Babu likewise does not disclose the use of a rotary furnace. Babu also does not disclose partially oxidizing the plastic gas in a decomposition section.

It is respectfully submitted that a *prima facie* case of obviousness has not been made.

Under MPEP § 2143 *prima facie* case of obviousness requires that three basic criteria be met.

First, there must be some suggestion or motivation, either in the references or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitation.

It is respectfully submitted that the first element of *prima facie* obviousness has not been established.

The Court of Appeals for Federal Circuit clearly stated that a modification of a prior art reference would not be obvious unless the prior art suggested the

desirability of the modification. *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). No such suggestion can be found in any of Gravel, Greve and Babu.

This decision of the Court of Appeals for Federal Circuit is consistent with the decision in *National Tractor Pullers Assoc., Inc. v. Watkins*, 205 U.S.P.Q. 892 (D.C. NJ 1980) in which the Court held that the

test of obviousness under 35 U.S.C. 103 is not whether prior art device could be modified into something resembling applicant's structure, but whether, at time invention was made, it would have been obvious to person of ordinary skill in art, given teachings of prior art, to make the invention; in considering prior art, prior patents are references only for what they clearly disclose or suggest, and it is not proper to modify their structures in manner that is not suggested by prior art (emphasis added).

The Board of Patent Appeals and Interferences likewise stated that prior art must provide motivation or reason for worker in said art to make necessary changes in reference device, without benefit of appellant's specification, in order to be obvious. *Ex parte Chicago Rawhide Manufacturing Co.* (PO Bd. App. 1984) 223 U.S.P.Q. 351.

While the last two citations relate to "device," they are equally applicable to a method.

The Office Action also does not contain any evidence as to why such modification of Gravel would have been obvious to one of ordinary skill in the art.

It is an established view that a statement that it would have been obvious to one skilled in the art to make modifications to the reference is not sufficient to establish a *prima facie* case of obviousness. MPEP §2143.01 relying on *Ex Parte Levingood*, 28 U.S.P.Q. 2d 1300 (Bd. pat. App. & Inter. 1993). In order to establish a *prima facie* case of obviousness, “it is necessary for the Examiner to present evidence, preferably in the form of some teaching, suggesting incentive or inference in the prior art, or in the form of generally available knowledge, that one having ordinary skill in the art would have been led to combine the relevant teachings.” *Id.* at 1301 (emphasis in original). As it has been noted above, no such evidence is seen in the Office Action.

The Federal Circuit has held that a claimed invention was not obvious, where “[c]onspicuously missing from [the] record is any *evidence*, other than the PTO’s speculation (if it be called evidence) that one skilled in the art would have been motivated to make the modification of the prior art “necessary to arrive at the claimed invention.” *In re Jones* 21 U.S.P.Q. 2d 1941 (Fed. Cir. 1982). It is to be pointed out, the Federal Circuit demands that the determination of obviousness be

based on a concrete evidence and rejects the “common knowledge” of one skilled in the art as a substitute for specific evidence. . . . *In re Lee*, 61 U.S.P.Q. 2d 1430 (Fed. Cir. 2002).

It is a long held view that obviousness should not be read “into an invention on the basis of Applicant’s own statements”, that the prior art must be viewed “without reading into that art Appellant’s teachings”, and that those teachings of the prior art should, “in and of themselves and without the benefits of Appellant’s disclosure (emphasis in the original text) make the invention as a whole, obvious.” *In re Sponnoble*, 160 U.S.P.Q. 237, 243 (CCPA 1969). It is respectfully submitted that the teachings of the prior art does not make the present invention, as defined by Claim 1, obvious.

In view of the above, it is respectfully submitted that Claim 1 rendered obvious by the combination of Gravel and Babu and is, therefore, patentably defines over said combination.

Claim 3 substantially corresponds to Claim 1, relies for its patentability substantially on the same inventive features as Claim 1 and is, therefore, allowable for the same reason Claim 1 is allowable. Hanson like Babu, even if combined with Gravel, would not make the invention, which is defined by Claim 3, obvious.

## CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance, and allowance of the application is respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects, in order to place the case in condition for final allowance, then it is respectfully requested that such amendment or correction be carried out by Examiner's amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, the Examiner is invited to telephone the undersigned.

Respectfully Submitted,  
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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 31, 2004.

Alexander Zinchuk

Signature: *Alexander Zinchuk*